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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/382,457 | 08/25/1999 | MARTIN RUSSELL HARRIS | P06477USO/DE | 5254 |

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STITES & HARBISON PLLC
1199 NORTH FAIRFAX STREET
SUITE 900
ALEXANDRIA, VA 22314

EXAMINER

ROBINSON, MARK A

ART UNIT PAPER NUMBER

2872

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/382,457

Applicant(s)

HARRIS, MARTIN RUSSELL

Examiner

Mark A. Robinson

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 42-70 is/are pending in the application.
- 4a) Of the above claim(s) 3-8, 13-17, 19-23, 42, 43 and 45-70 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9-12, 18, 24 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2872

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder 5220403.

Batchelder shows in fig. 4e a confocal microscope including coherent light source(410) for illuminating a sample, beam splitter(460), light condenser(310/312), and light receiving means(420), wherein return light from the sample is deviated by an angle (via item 480--note that a portion of the beam avoids retracing the incident beam path). Note that these elements may be said to form a "head," and that the light source and receiving means are adjacent. Batchelder does not specifically teach the returning light to be broader than the incident light. However, use of well known illumination which would enable a broader return beam would have been obvious to the ordinarily

Art Unit: 2872

skilled artisan at the time of invention depending on the type of imaging to be performed upon the specimen. The claimed method limitations are inherent in the structure of Batchelder set forth above.

Note: Claim 44 was inadvertently grouped in the previous office action in the rejection based upon both Batchelder and Hill. This claim has been separately grouped herein since the Hill reference is not being relied upon.

3. Claims 1,2,9,11,12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder 5220403 in view of Hill 6236507.

As discussed previously, Batchelder shows in fig. 4e a confocal microscope including coherent light source(410), beam splitter(460), light condenser(310/312), and light receiving means(420) which forms an image of the sample from the return light, wherein return light from the sample is deviated by an angle "which is small relative to 90°." Note that either return beam could satisfy this limitation since one is deviated by an angle of 0 degrees and the other is deviated by a small acute angle. Note also that these elements may be said to form a "head," and that the light source and receiving means are adjacent. Batchelder does not explicitly teach light from the AO beam splitter to deviate based upon either polarization or

Art Unit: 2872

wavelength. However, beam splitters comprising AO Bragg cells commonly cause light to deviate based upon either polarization or wavelength and explicit teaching of this is provided by Hill (note item 60 in the figures, and column 4 etc.). It would have been obvious to the ordinarily skilled artisan at the time of invention to deviate the light from the sample based upon either wavelength or polarization in order to allow for examination of sample features visible only via wavelength or polarization differentiation.

The method limitations of claim 24 are inherent in the structure of Batchelder.

4. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder 5220403 in view of Hill 6236507 as applied to claim 1 above, and further in view of Harris 5120953.

Batchelder in view of Hill does not show the illumination arrangement to include an optical fiber/waveguide. However, such arrangements are well known and an example is shown by Harris in fig. 1. It would have been obvious to the ordinarily skilled artisan at the time of invention to include an optical fiber with the system of Batchelder in view of Hill in order to allow flexibility in the location of the laser light source.

Response to Arguments

5. Applicant's arguments filed 10/22/04 have been fully considered but they are not persuasive.

Applicant has argued that light detected by Batchelder's detector 420 is an interference pattern generated by the AO cell, and that the detector is not "aligned" or positioned to detect return light and form an image of the sample.

However, "aligned" is not found in the claims. Further, Batchelder clearly teaches throughout his specification detected light or a detected image in a variety of applications for which the device may be used (see especially col. 13-16) and that return light from the samples is deviated by an angle that is small relative to 90 degrees by the beam splitter (AO), one beam being deviated by an angle of 0 degrees and the other being deviated by a small acute angle as shown in fig. 4e.

Applicant has also argued that Batchelder's beam splitter produces an interference pattern rather than merely deviating light. However, this beam splitter is clearly taught to deviate the return beams as discussed above (see also the first full paragraph of col. 15).

Applicant has also argued against the use of Hill with Batchelder.

Art Unit: 2872

However, Hill was cited merely to show an example of a known type of beam splitter. Use of such would have provided the obvious benefit of enabling specific types of examination as set forth in the rejection. These references are in the same field of endeavor, i.e. interferometric optical devices, and thus their combination is appropriate.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2872

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (571) 272-2319.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MR

1/6/05


MARK A. ROBINSON
PRIMARY EXAMINER